

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

511, 067

Translation

Applicant's or agent's file reference 03 138 PC	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/DE2003/001247	International filing date (day/month/year) 14 April 2003 (14.04.2003)	Priority date (day/month/year) 12 April 2002 (12.04.2002)	
International Patent Classification (IPC) or national classification and IPC B01J 19/24			
Applicant HORNIG, Wolfgang			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 6 sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

Date of submission of the demand 07 November 2003 (07.11.2003)	Date of completion of this report 20 October 2004 (20.10.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International Application No.

PCT/DE2003/001247

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ The international application as originally filed/furnished

☒ the description:

pages _____ 3-13 _____, as originally filed/furnished
 pages* _____ 1, 2, 2a _____ received by this Authority on _____ 13 September 2004 (13.09.2004)
 pages* _____ received by this Authority on _____

☒ the claims:

pages _____ 2-19, 22-28 _____, as originally filed/furnished
 pages* _____, as amended (together with any statement) under Article 19
 pages* _____ 1, 20, 21, 29 _____ received by this Authority on _____ 13 September 2004 (13.09.2004)
 pages* _____ received by this Authority on _____

☒ the drawings:

pages _____ 1/1 _____, as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☒ the claims, Nos. _____ 29 _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

- 1) The amendment "with low flow resistance" on page 2 of the description submitted with the letter of 9 September 2004 does not meet the requirements of PCT Article 34(2)(b), since no basis for this amendment could be found in the originally filed version of the application and nor is there any indication of such a basis in the applicant's letter.

Consequently, this amendment is not considered part of the application.

- 2) The new claims submitted with the letter of 9 September 2004 do not meet the requirements of PCT Rule 66.8, since only some of the claims were replaced and those that were not have not been renumbered accordingly. Thus, since some of the independent claims refer to other claims, the subject matter of those claims is currently unclear.

This concerns, in particular, the new claim 29.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.
PCT/DE 03/01247

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-29	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-29	NO
Industrial applicability (IA)	Claims	1-29	YES
	Claims		NO

2. Citations and explanations

1) New independent claim 1

As discussed under Box VIII, claim 1 does not meet the requirements of PCT Article 6. For the purposes of the further examination, the term "surface reactor" is understood to mean a housing comprising a body.

The subject matter of claim 1 differs from documents D1 and D2 in that neither of those documents discloses the ratio of the length to the average diameter of the body.

The subject matter of the claim is therefore considered novel over D1 and D2.

Regarding the inventive step in claim 1, the applicant asserts in his letter that the body in claim 1 is produced using a method different from those indicated in D1 and D2 and also mentions several advantages of a body produced in a method in which a filamentous substrate material is first coated with the alloy (consisting of at least 80% tin) and is then shaped to form a body.

Claim 1 does not, however, indicate the method steps used to produce the body, since it is not drafted as a "product by process" claim. Therefore, this type of discussion is not relevant to the assessment of inventive step.

Furthermore, the applicant asserts that the bodies or nettings (in the amended description, the applicant uses the words woven fabric and knitted fabric) disclosed in D1 and D2 are not filamentous. Metal wire netting (see D1, column 2, line 25) clearly consists of netted wire, and a "mesh" (see D2, page 1) normally consists of wire-like material. The body in the current application also consists of filamentous material which is netted, etc. (see claim 5), rolled (see claim 6) or which can take any shape that matches that of the reactor, e.g. that of a cylinder or sphere, etc. (see the third paragraph on page 6 of the description).

Consequently, this feature is not considered to differ from the prior art disclosures.

The applicant does not indicate in his letter any further advantages resulting from using the stated range for the ratio of length to average diameter, and therefore the objection already mentioned in the written opinion regarding the lack of inventive step in the claim is upheld. Furthermore, the absence of this feature in independent claim 20 supports the argument that this feature is not essential for solving the problem of interest.

In particular, the application description shows that the problem addressed by the application, that

is the development of a surface reactor which guarantees over a long-term period even pressure distribution in the reactor housing without the risk of blockages and of ensuring that the body located in the housing can be adapted to different shapes of reactor housing (see page 2, lines 1 to 6), is solved by the composition and filamentous design of the body (see the third paragraph on page 2). Consequently (particularly in view of the absence of any comparative examples that show an effect over the entire range claimed for the ratio of length to average diameter), the exact dimensions of the body do not appear to contribute to solving the problem of interest.

Thus, the dimensioning of the body so that it can be adapted to a housing is regarded as a routine design measure for a person skilled in the art.

Consequently, the subject matter of claim 1 cannot be considered to involve an inventive step (PCT Article 33(3)) in relation to D1 and particularly in relation to D2.

2) New independent claim 20

As discussed under Box VIII, claim 20 does not meet the requirements of PCT Article 6.

If the term "surface reactor" should be interpreted as a synonym for the term "body", then claim 20 appears to contain a wire made from a certain composition. This is already known from WO0131074 (cited in the search report) and therefore the subject matter of claim 20 would lack novelty.

If the term "surface reactor" is interpreted as meaning a housing containing a body, then the subject matter of claim 20 would appear to be novel, since the composition indicated in the claim is disclosed in neither D1 nor D2.

However, in view of the absence of comparative examples in the application, the advantages of this choice are not clear and therefore an inventive step cannot be acknowledged.

3) Original claim 17

D1 (see column 2, lines 31 to 61) discloses a method for producing netting, a reduction agent being used. The further method steps appear to be routine design measures to a person skilled in the art.

Consequently, the subject matter of this claim cannot be considered to involve an inventive step (PCT Article 33(3)) in relation to D1.

4) No further subject matter could be discerned in the dependent claims which involves an inventive step in relation to the prior art.

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The application does not meet the requirements of PCT Article 6 because claims 1 to 29 are not clear.

It would appear from the description and the applicant's letter of response that the feature of the "body" is essential to the definition of the invention.

Since independent claim 20 does not contain this feature, it does not meet the requirement of PCT Article 6 in conjunction with PCT Rule 6.3(b) that each independent claim must include all the technical features essential to the definition of the invention.

In addition, the discrepancy in the definitions provided in the current claims 1 and 20 raises doubts concerning the definitions of the terms "body" and "surface reactor" and the difference(s) thereof.

Claims 1 to 29 are therefore unclear.